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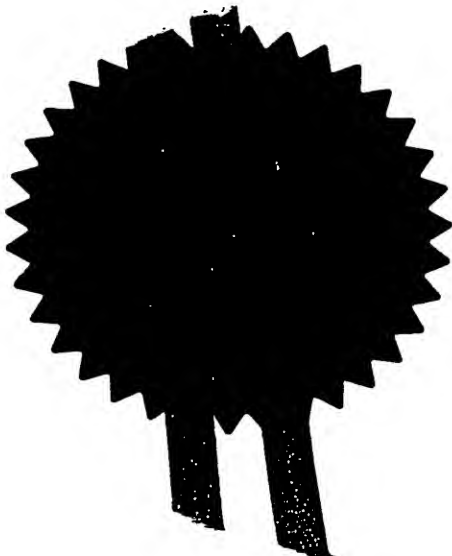
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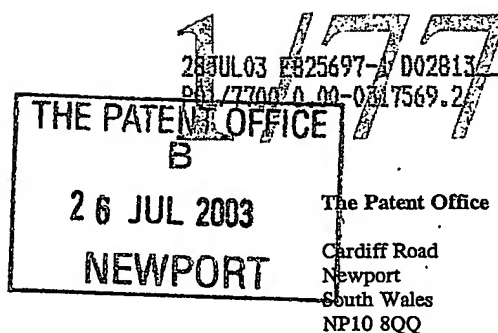
Stephen Hordley

Dated 11 August 2004

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1. Your Reference	P51293u GB		
2. Patent Application Number (The Patent Office will fill in this part)	26 JUL 2003	0317569.2	
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Patents ADP number (if you know it)	7269462002		
If the applicant is a corporate body, give the country/state of its incorporation	UK		
4. Title of the invention	Apparatus for Holding an Article and a Security Device Therefor		
5. Name of you agent (if you have one)	Fry Heath & Spence LLP		
"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)	The Gables Massetts Road Horley Surrey RH6 7DQ		
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8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if: a) any applicant named in part 3 is not an inventor, or b) there is an inventor who is not named as an applicant, or c) any named applicant is a corporate body. See note (d))			

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Description 10

Claims(s) 4

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Statement of inventorship and right to grant of a patent (*Patents Form 7/77*)

Request for preliminary examination and search (*Patents Form 9/77*) 1 *ph*

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11. I/We request grant of a patent on the basis of this application.

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S. G. Unwin

Date

25 July 2003

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APPARATUS FOR HOLDING AN ARTICLE AND A SECURITY DEVICE THEREFOR

This invention relates to apparatus for holding an article, e.g. a disk such as a CD or DVD, and to a security device for use therewith.

There are many forms of apparatus on the market for holding a disk. One example, is the applicant's product as described in WO96/14636 in which holding means releasably holds the disk via the central hole therein. It is desirable to provide such apparatus with security features to help prevent theft from retail outlets. WO02/31831 describes two forms of device which interact with the holding means: a strip which slides beneath the holding means to prevent depression thereof or a cap which fits within a release button to prevent its contraction. These both provide a relatively low level of security but may be useful, for example, to prevent release of the disk, either intentionally by a thief or inadvertently during transit, e.g. by depression of the release button through a wall of a container housing the apparatus.

WO02/39451 describes a lockable security device which provides an enhanced level of security for the apparatus described in WO96/14636 in that the disk is locked to the apparatus and/or the container is locked in a closed position and can only be released upon application of a special tool, e.g. by insertion with a particular magnetic release apparatus. This provides a significant enhancement of the apparatus described in WO96/14636.

The present invention seeks to extend many of the advantages of the lockable security device described in WO02/39451 to other types of disk holder (and other apparatus for holding an article having a hole therein) in which the security device shown in WO02/39451 cannot be used or can only be used to a limited extent. It also provides an alternative form of security device for use with the apparatus described in WO96/14636.

Whilst the embodiments shown are for holding an article having a hole therein, e.g. a disk such as a CD or DVD, the invention can be used with apparatus for

holding other types of article for which it is desired to provide some level of security, for example valuable articles or articles for which restricted access is desirable, e.g. medical products.

According to a first aspect of the invention, there is provided apparatus for holding an article, the apparatus comprising holding means for releasably holding the article; obstructing means moveable between a first position which permits the article to be received by the holding means and removed therefrom and a second position in which it inhibits operation of the holding means to release the article and/or inhibit removal of the article therefrom; and securing means engageable with the apparatus so as to secure the obstructing means in said second position.

According to a second aspect of the invention, there is provided, a kit of parts comprising: apparatus having holding means for releasably holding an article; obstructing means for inhibiting operation of the holding means and/or inhibiting removal of the article therefrom; and securing means engageable with the apparatus so as to inhibit or prevent removal of the obstructing means from the holding means.

According to a third aspect of the invention, there is provided apparatus having holding means for releasably holding an article, the holding means being adapted to receive obstructing means for inhibiting operation of the holding means and/or inhibiting removal of the article therefrom, and adapted to receive securing means engageable therewith so as to inhibit or prevent removal of the obstructing means from the holding means.

According to a further aspect of the invention, there is provided securing means adapted for use with such apparatus.

Optional and preferred features of the invention will be apparent from the following description and from the subsidiary claims of the specification.

The invention will now be further described, merely by way of example, with reference to the accompanying drawings, in which:-

Figure 1 is a perspective view of a disk holder together with an obstruction cap and security device prior to installation into the disk holder according to a first embodiment of the invention;

Figure 2 is a perspective view of a disk holder together with an obstruction cap and a security device when installed within the disk holder according to the first embodiment of the invention;

Figure 3 is a plan view of the arrangement shown in Figure 2;

Figure 4 is a cross-sectional view along line A-A of Figure 3;

(Figures 2 and 3 omit the disk for clarity but the disk is shown in Figure 4)

Figure 5 is a perspective view of part of a container having a disk holder therein showing another form of obstructing cap which is pivotably mounted on the container;

Figure 6 is a perspective view of the obstructing cap from the opposite direction compared to Figure 5;

Figure 7 is a perspective view of a disk holder with a security device partially inserted therein according to another aspect of the invention; and

Figure 8 is a further perspective view of the apparatus shown in Figure 7 along the length of the security device.

Figure 1 shows a perspective view of a disk holder comprising a tray 1 based upon that used in well-known apparatus known as a "jewel-box" but modified by the provision of a first slot 2A in the edge of a platform 2 provided at the centre

of the tray 1 and a second slot 3A through a raised area 3 provided along one side of the tray 1.

Disk holding means 4 in the form of a conventional, circular arrangement of arms 5 is provided on the platform 2 for releasably holding a disk 6 (see Figure 4) by fitting through the central aperture thereof.

An obstructing cap 7 is provided having a projecting part for fitting to the disk holding means 4 after a disk has been mounted thereon. The cap may click into place by means of a snap-fit holding mechanism or may simply rest within the holding means 4. Such a cap may take a variety of forms but functions to inhibit operation of the disk holding means (e.g. by preventing inward flexing of the arms 5 so as to release the disk 6) and/or by inhibiting removal of the disk, e.g. by means of a circular flange 7A which overlaps the upper surface of the disk 6.

As indicated above, such a cap 7 provides a relatively low level of security. However, the security is greatly enhanced by providing a security device 8 which slides beneath the disk 6 through the slot 2A in the platform 2 so as to engage with the cap 7 in a manner which prevents removal of the cap 7. The security device 8 thus secures the cap 7 to the apparatus. The cap 7 can thus only be removed to enable the disk 6 to be released, following withdrawal of the security device 8. As shown in the drawings, the security device preferably also passes through the slot 3A in the edge of the tray 3 so it can be installed from outside the apparatus. It is also preferably provided with a locking mechanism 9 and this is preferably actuated when the security device is inserted into the tray 1 and prevents withdrawal of the security device 8 until the locking mechanism 9 has been released, e.g. by application of a particular form of magnetic lock release apparatus (not shown).

In the arrangement shown, the security device 8 secures the cap 7 in place by means of arms 8A and 8B which engage within slots 7B in a cylindrical part 7C projecting from the underside of the cap 7 and which fits through an aperture in the centre of the disk holding means 4. As shown, arms 8A and 8B pass through

slot 2B in one side of the platform 2. They may also project out through a further slot (not shown) on the opposite side of the platform 2.

Other forms of engagement may be used between the cap 7 and security device 8 which inhibit or prevent removal of the cap 7 from the disk holding means 4 until the security device 8 is removed or disengaged therefrom.

The cap 7 is also preferably provided with a lifting portion 7D to make it easier to grasp.

The security device 8, and particularly the locking mechanism 9 thereof, may be similar to the security devices described in WO02/39451.

It will thus be appreciated, that the interaction between the cap 7 and the security device 8 enables the benefits of such a locking mechanism to be provided in disk holding apparatus which differs from that disclosed in WO96/14636 and which does not rely upon depression of parts towards a base portion to release the disk. In the embodiment described in relation to Figures 1-4, the distal end of the security device 8 does not interact with the disk holding means 4 so as to inhibit its operation, e.g. by preventing depression parts of the release mechanism, as described in WO02/31831 but, instead, interacts with the cap 7 so as to secure this in place.

The security device 8 may also have a further arm 8C to hold a lid of the disk holding apparatus in a closed position in the manner described in WO02/39451.

The arrangement disclosed in WO02/39451 can also be modified in the manner described above to provide additional security. A cap may, for example, be provided for fitting to the disk holding means, as described in WO02/31831, with an S-shaped portion projecting from the underside thereof for fitting into an S-shaped gap between the halves of a Yin-yang shaped release button. The security tag inserted beneath the disk and beneath the release button may be provided with arms (as shown in Figure 1 hereof) for engagement with grooves

or slots provided in the sides of the S-shaped portion to prevent removal of the cap. Such a cap has an upper portion which rests on the top of the release button but which also preferably extends beyond the release button so as to overlap the upper surface of the disk and thereby provide an additional obstruction to removal of the disk.

Figures 5 and 6 show perspective views of part of a container according to another embodiment of the invention having a disk holder therein. The container comprises a base portion 10 and a lid portion (not shown) hinged thereto. Disk holding means 11 is provided on the base portion 10 and an upstand 12 is provided for surrounding the periphery of a disk held thereon. The disk holding means 11 may take a variety of forms but, in this embodiment, it comprises a hollow, cylindrical column 13 for fitting through the central aperture of one (or more) disks. An obstruction cap 14 is provided for fitting into the cylindrical column 13 so as to prevent removal of disks therefrom.

The cap 14 is pivotably mounted to the base portion 10 by means of two curved arms 14A and 14B which pivot about connections with the upstand 12. Preferably, the arms 14A and 14B snap-fit within slots 12A, 12B in the upstand 12 so the cap 14 can be pivoted 90 degrees about the connection therewith from the position shown in figures 5 and 6 to a position in which the cap engages with the column 13.

Other forms of obstruction means can be used in place of that shown which is movable between a first position which permits a disk to be installed on or removed from the disk holding means and a second position in which it interacts with the disk holding means and/or obstructs the removal of a disk therefrom.

In the embodiment shown, the cap 14 has a resilient arm 14C therein which is arranged to engage with a feature (not shown) within the column 13 so as to retain the cap in engagement with the column (but in a manner which can be easily overcome by a user's finger pulling on the cap 14). However, when a security device (not shown but similar to that shown in Figures 6 and 7

described below) is inserted into the apparatus through a slot 10A in the upstand 12 and into a slot 13A in the column 13, it interacts with the resilient arm 14C so as to move the resilient arm 14C to a position which locks the cap 14 within the column 13. The cap 14 can then only be removed once the security device has been moved out of engagement therewith.

Figures 7 and 8 show perspective views of a further embodiment of the invention. The apparatus in these two figures is similar although that shown in Figure 8 has an additional memory card holder on the right hand side thereof. The apparatus has a base portion 20 and a lid portion 21 hinged thereto. Disk holding means 22 is provided on the base portion and an upstand 23 is provided for surrounding the periphery of a disk held thereon. The disk holding means 22 may take a variety of forms but in this embodiment it comprises a cylindrical column 24 for fitting through the central aperture of one (or more) disks. A cap 25 is then provided for fitting into the cylindrical column 24 so as to prevent the removal of disks therefrom. As shown, the cap 25 is affixed (or may be part of) the underside of the lid portion 21. The cap 25 comprises a generally cylindrical projection 25A which is shaped to fit into the cylindrical column 24 of the disk holding means 22 (when the lid portion 21 is closed) and a circular flange 25B for overlapping the upper surface of a disk held on the column 24. In some cases, the flange 25B may be provided by a wall of the lid portion 21 rather than projecting therefrom.

Other arrangements similar to those shown in Figures 5-8 may be used in which the obstruction cap is a separate component rather than being affixed to or integrally formed with some other part of the apparatus.

In the embodiments shown in Figures 5-8, the container is designed to receive a security device 26 of the type described in WO02/39451, rather than a device with a bifurcated end such as that shown in Figure 1. The security device 26 comprises a long arm 26A, a short arm 26B and a locking mechanism 26C.

As the column 24 has a width similar to that of the aperture in a disk (the aperture typically being around 15mm in diameter) and the long arm 26A of the security device has a similar width, the container is adapted to receive the security device slightly off centre, i.e. slots 20A and 20B provided in the base portion 20 are not aligned with the centre of the disk holding means 22 but are offset therefrom, typically by about 7mm, so as to engage with a slot 24A provided in one side of the column 24. This may be achieved by offsetting the disk holding means 22 and upstand 23 from a central position within the base portion 20 and/or by offsetting the slot 20A from a central position in the edge of the base portion 20.

When the cap 25 is located within the column 24 and the security device 26 is inserted, the long arm 26A thereof engages with an abutment 25C of the cap 25 to prevent removal of the cap 25 from the column 24.

In a further arrangement (not shown), the obstructing means may form part of or be attached to the holding means. The holding means may, for instance, comprise one or more lateral projections which, in a first position, are retracted or only project a small distance so as to, at the most, only loosely retain a disk located on the holding means. However, when the security device is installed under the holding means it interacts therewith so as to push the projections radially outwards to an extent that they prevent removal of the disk from the holding means. With the projections in this second position, the disk is thus locked thereon until the security device is withdrawn whereupon the projection moves back, or can be pushed back, to their retracted or partially retracted position, to permit removal of the disk.

One such lateral projection may suffice but preferably two are provided on diametrically opposite sides of the holding means each being pushed out by an edge of the long arm of the security device as it passes under the holding means.

A cap or other insert designed to be installed from above may likewise be arranged to expand the holding means or at least part thereof as it is inserted therein so as to enhance the engagement between the holding means and the disk so as to secure the disk thereon. In such an arrangement, the cap need not be provided with a flange to overlies the disk as this is not needed to secure the disk on the holding means.

The invention may also be applied to apparatus for holding other types of article. The holding means may take many different forms depending upon the shape and nature of the article to be held. It may, for example, comprise a slot, receptacle or other form of housing adapted to receive the article(s) in question. One or more such holding means may be provided in the apparatus. In some cases, the internal walls of the apparatus may provide the holding means.

The obstructing means may, similarly, take many different forms depending upon the shape and nature of the article and the holding means. Likewise, the securing means may take many different forms. However, it is preferable for the locking means thereof to be of a nature such that it can be released by the same release apparatus used to release locking means used in other apparatus, such as that described in WO02/39451 so that retail outlets do not have to use different release apparatus for different merchandise.

The apparatus described above is also preferably used in conjunction with Electronic Article Surveillance (EAS) devices or tags. Such tags come in a variety of forms and may be affixed to the container itself but are preferably affixed to the obstructing means and/or to the securing means so as to be locked in the apparatus but removeable therefrom for use in another container when the security means and/or obstructing means is withdrawn from the container. An EAS tag may, for example, be affixed to the long arm of the security device 8 in the position indicated by dashed lines 8D in Figures 1-3. The security device 26 shown in Figure 7 has a recessed area 26D towards the distal end thereof for receiving an EAS tag.



Alternatively, or in addition, an EAS tag may be provided on a cap 7 such as that shown in Figures 1-3, e.g. around the circular flange 7A or on the lifting portion 7D.

CLAIMS

1. Apparatus for holding an article, the apparatus comprising holding means for releasably holding the article; obstructing means moveable between a first position which permits the article to be received by the holding means and removed therefrom and a second position in which it inhibits operation of the holding means to release the article and/or inhibits removal of the article therefrom; and securing means engageable with the apparatus so as to secure the obstructing means in said second position.
2. Apparatus as claimed in claim 1 in which the holding means is adapted to hold an article via a hole therein.
3. Apparatus as claimed in claim 2 in which the article is a disk, for instance a CD or DVD.
4. Apparatus as claimed in claim 1, 2 or 3 in which the obstructing means comprises a flange portion for overlying part of the article when held on the holding means so as to inhibit removal of the article therefrom.
5. Apparatus as claimed in any preceding claim in which the obstructing means comprises a projecting part for fitting into the holding means.
6. Apparatus as claimed in claim 4 in which said projecting part is arranged to interact with the holding means so as to inhibit operation thereof to release the article and/or to cause the holding means to obstruct removal of the article therefrom.
7. Apparatus as claimed in any preceding claim in which the obstructing means comprises part of the holding means or is attached thereto and the securing means is arranged to interact with the obstructing means and/or

the holding means so as to move the obstructing means to said second position.

8. Apparatus as claimed in any of claims 1-6 in which the obstructing means is removeably engageable with the holding means and the securing means is arranged to interact with the obstructing means when the obstructing means is fitted to the holding means so as to inhibit removal of the obstructing means from the holding means.
9. Apparatus as claimed in claim 8 in which the securing means engages with a slot in the obstructing means to inhibit removal of the obstructing means from the holding means.
10. Apparatus as claimed in claim 8 or 9 in which the securing means interacts with the obstructing means so as cause part of the obstructing means to engage with the holding means so as to inhibit its removal therefrom.
11. Apparatus as claimed in any preceding claims in which the securing means is provided with locking means for preventing disengagement of the securing means from the obstructing means until the locking means is released.
12. Apparatus as claimed in claim 11 in which the locking means is arranged to be actuated upon installation of the securing means.
13. Apparatus as claimed in claim 11 or 12 in which the locking means is arranged so as to be released upon application of magnetic release apparatus.
14. Apparatus as claimed in any preceding claim in which an EAS tag is mounted on the obstructing means and/or on the securing means.

15. A kit of parts comprising: apparatus having holding means for releasably holding an article; obstructing means for inhibiting operation of the holding means and/or inhibiting removal of the article therefrom; and securing means engageable with the apparatus so as to inhibit or prevent removal of the obstructing means from the holding means.
16. Apparatus having holding means for releasably holding an article, the holding means being adapted to receive obstructing means for inhibiting operation of the holding means and/or inhibiting removal of the article therefrom, and being adapted to receive securing means engageable therewith so as to inhibit or prevent removal of the obstructing means from the holding means.
17. Apparatus as claimed in claim 16 in which the obstructing means is formed therewith or mounted thereon so as to be moveable between a first position in which it permits installation or removal of the article onto or from the holding means and a second position in which it inhibits operation of the holding means and/or inhibits removal of the article therefrom.
18. Apparatus as claimed in any preceding claim comprising a base portion and a lid portion moveable between open and closed positions, the securing means also being adapted to secure the base portion and lid portion in the closed position when installed therein.
19. Securing means for use with the apparatus claimed in claim 16 or 17, or claim 18 when dependent upon claim 16 or 17, adapted to engage with the holding means so as to inhibit or prevent removal of the obstructing means from the holding means.
20. Apparatus for holding an article substantially as hereinbefore described with reference to and/or as shown in one or more of the accompanying drawings.

21. Securing means for use with apparatus as claimed in claim 20 substantially as hereinbefore described with reference to and/or as shown in Figure 1 to 3.

ABSTRACTAPPARATUS FOR HOLDING AN ARTICLE AND A SECURITY DEVICE THEREFOR

Apparatus for holding an article such as a disk, the apparatus comprising a hub (5) for holding the disk; a cap (7) moveable between a first position in which it permits the disk to be received by the hub (5) and removed therefrom and a second position in which it prevents the hub from releasing the disk and/or inhibits removal of the disk therefrom; and a security device (8) engageable with the apparatus so as to interact with the cap to secure the cap (7) in said second position. The cap (7) may be a separate item, hinged to the apparatus or carried by a lid portion of the apparatus.

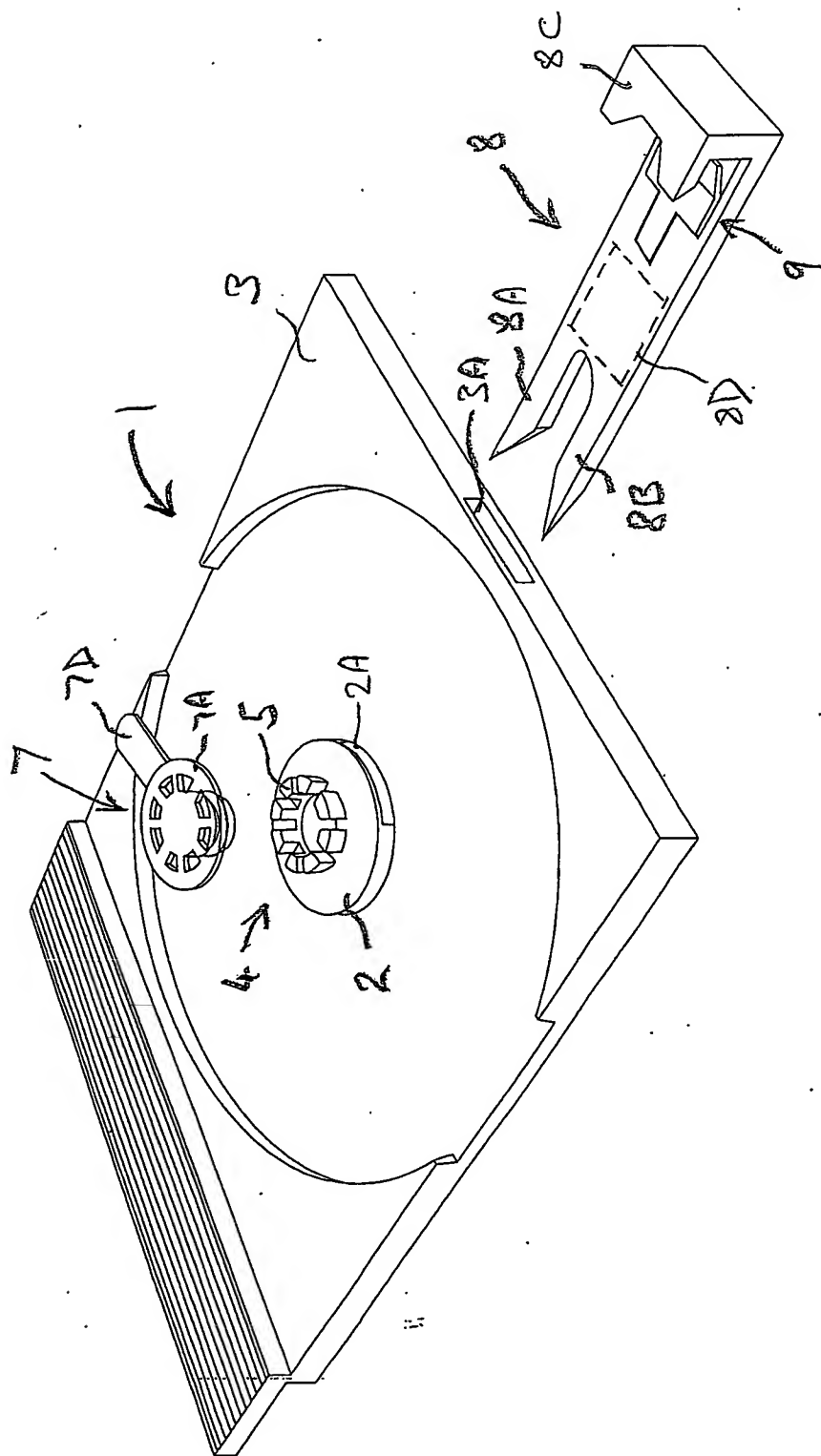


FIG. 1

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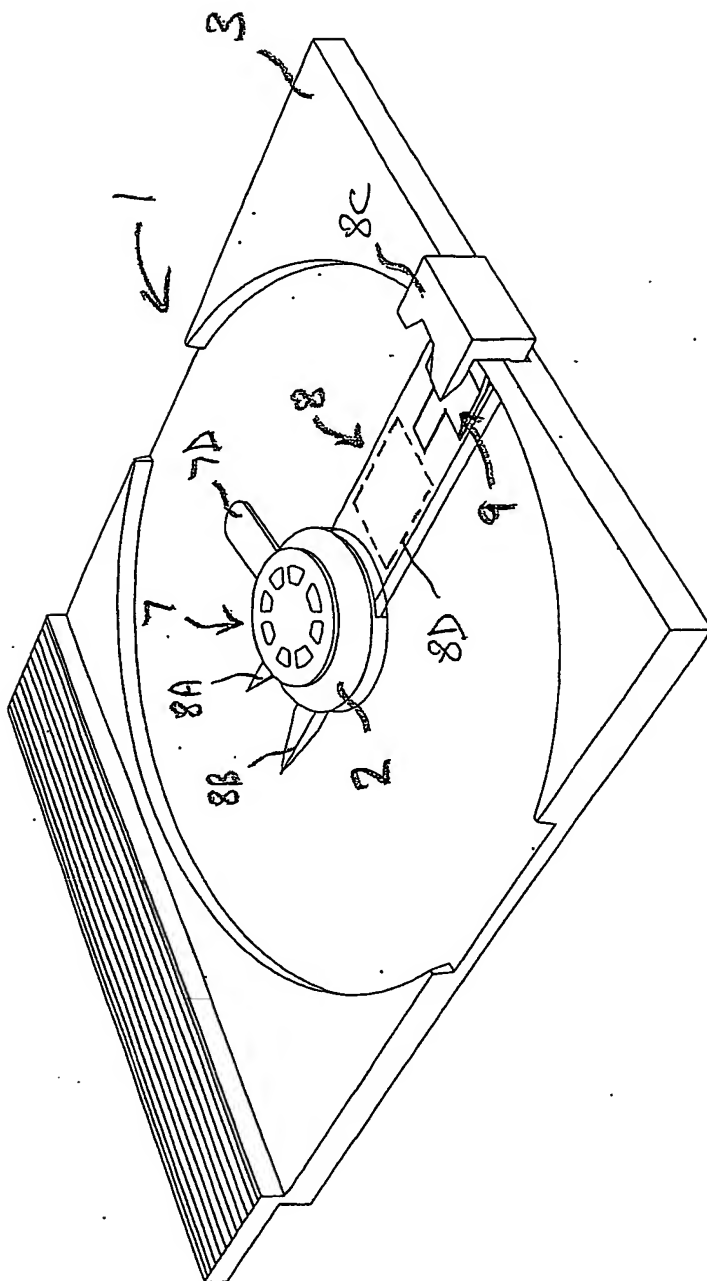


FIG. 2

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FIG. 3

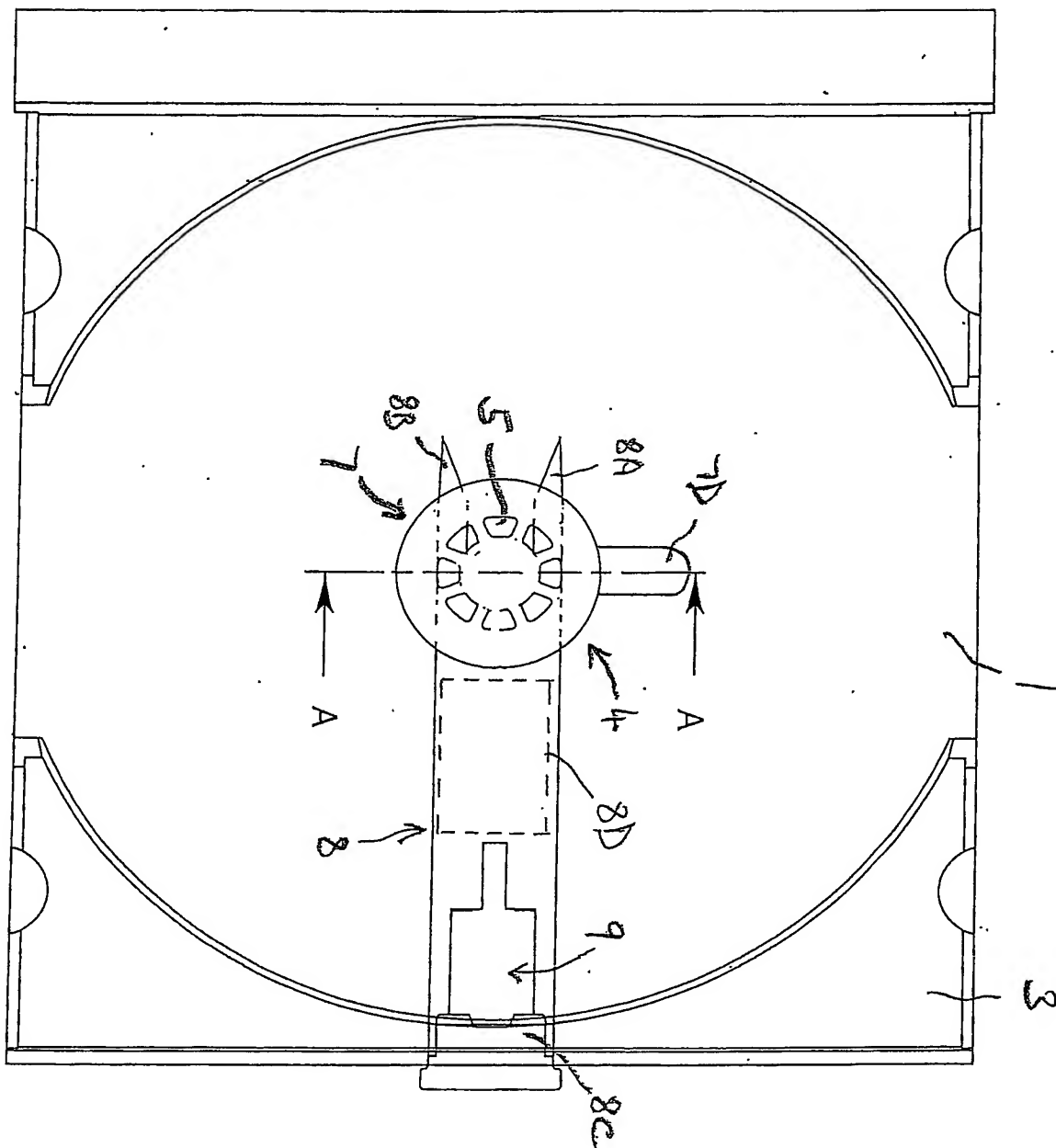
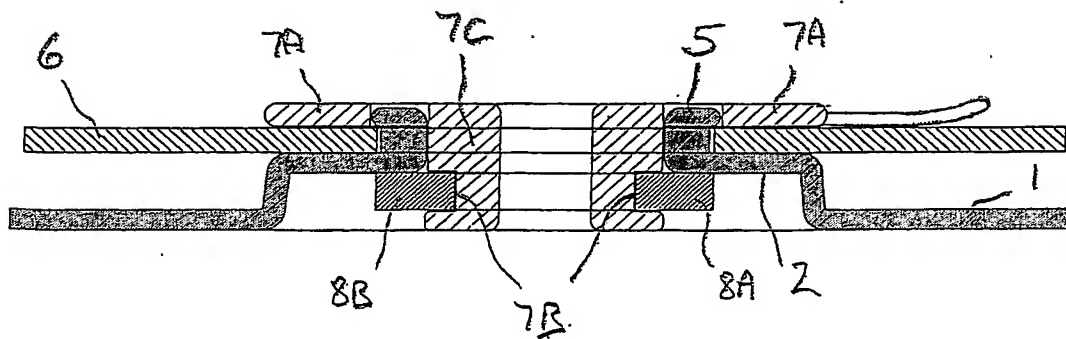


FIG. 4



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12A

14C

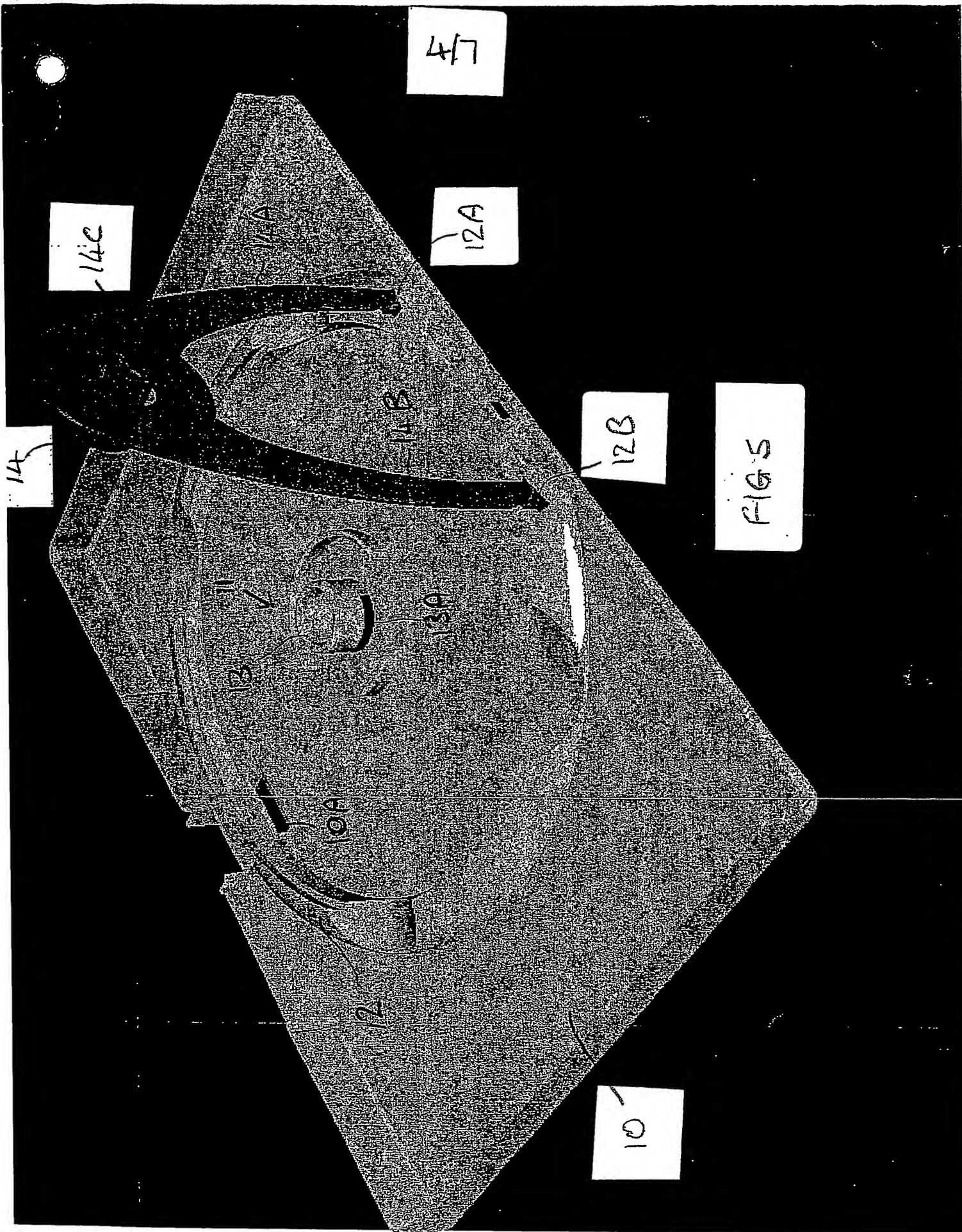
11B

12B

FIG. 5

14

10



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FIG-6

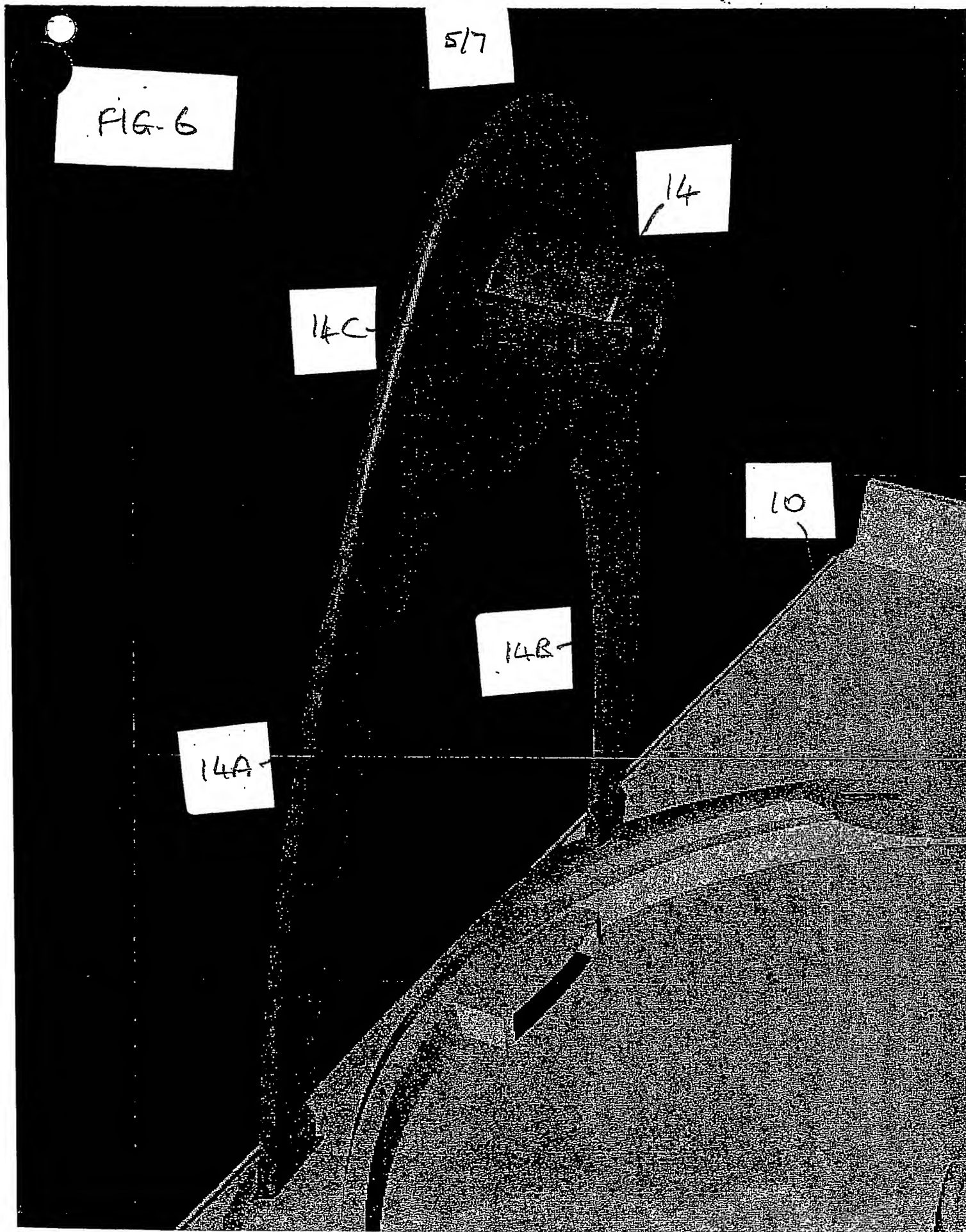
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14C

10

14B

14A



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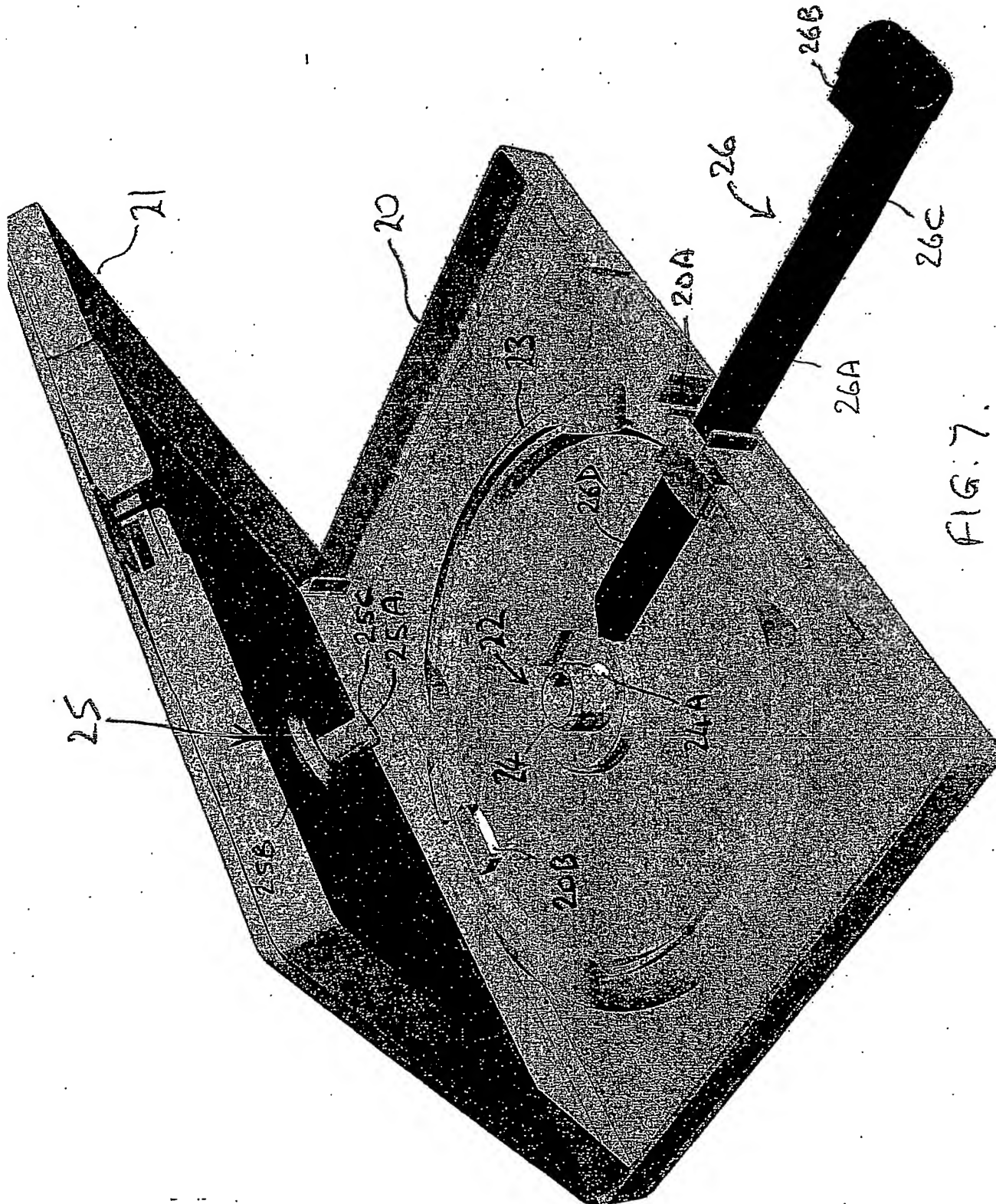
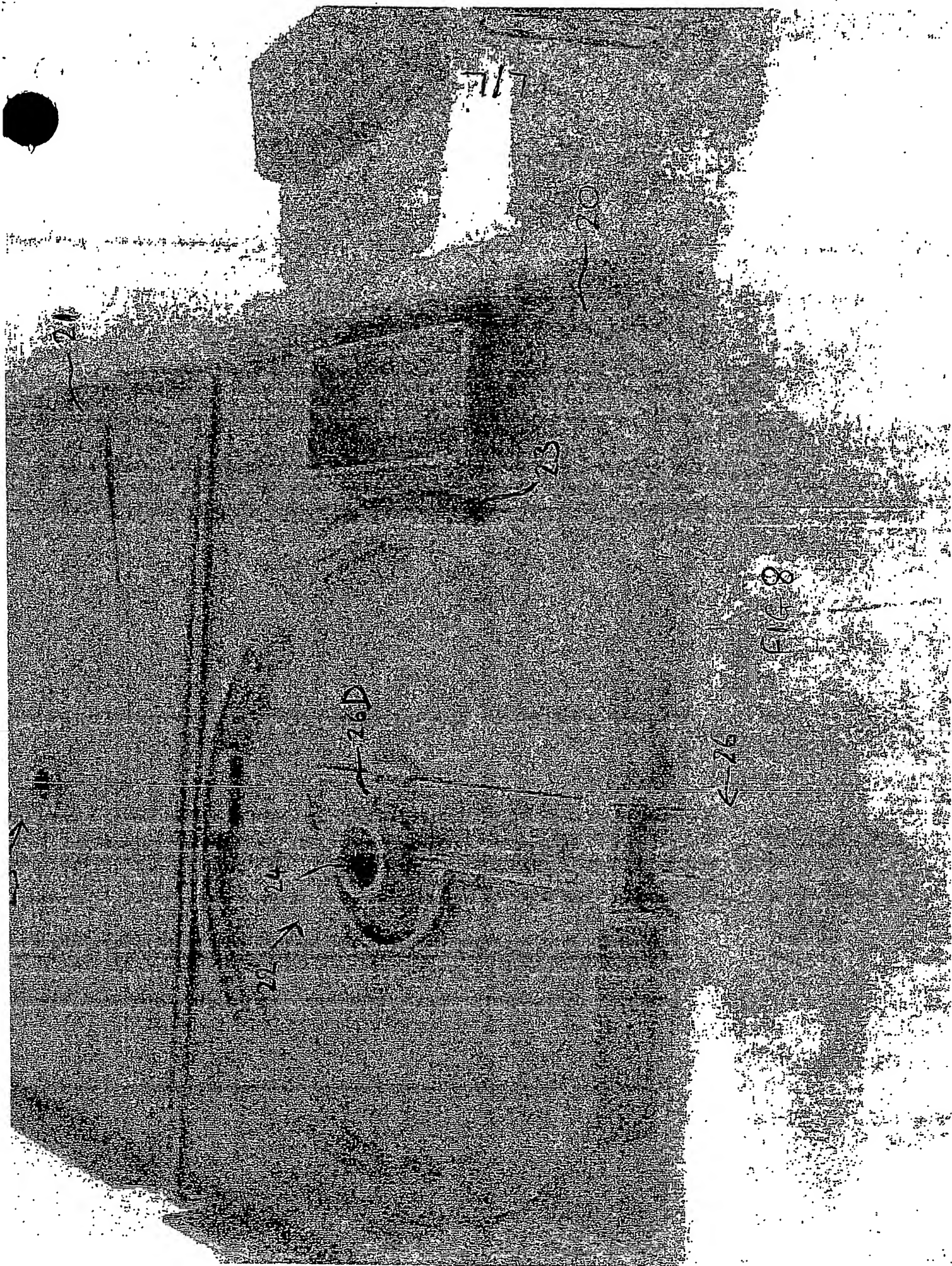


FIG. 7.



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